

A new species of *Raphionacme* (Periplocaceae) from the Orange Free State

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Raphionacme dyeri Retief & Venter, a new species from the Orange Free State, is described. The species is closely related to *R. zeyheri* Harv. The yellowish green inner surface of each corolla lobe with a purple or magenta 'V' marking on the upper half, distinguishes *R. dyeri* from all the other *Raphionacme* species.

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Raphionacme dyeri Retief & Venter, 'n nuwe spesie van die Oranje-Vrystaat, word beskryf. Die spesie is na verwant aan *R. zeyheri* Harv. Die geelgroen binneste oppervlak van elke kroonlob met 'n pers of magenta V-vormige merk op die boonste helfte, onderskei *R. dyeri* van al die ander *Raphionacme*-spesies.

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Description

Raphionacme dyeri Retief & Venter, **sp. nov.**, *R. zeyheri* Harv. affinis, sed foliis glabris et floribus grandioribus differt.

Herba suffrutescens, tubere ovoideo. *Caules* aeriae erectae vel decumbentes, dichotome ramosae, rubellovirides, hirsutae. *Folia* opposita, effusa, petiolata; lamina ovata ad anguste ovata vel obovata ad anguste obovata, (20)–35–(65) × (4)–7–(15) mm, hebetoviridibus ad glaucis, costis saepe plicatis, rubellopurpurata, superne glabra, inferne dense ad sparsim hirsuta, apice acuto vel obtusato, mucronata, basin cuneata ad obtusata, margine integre, undulato, plerumque rubellopurpurato; petiolo (1)–5–(15) mm longo, rubellopurpurato. *Inflorescentia* terminalis vel aliquando axillaris, plerumque monochasialis, 3–5 florata; pedunculi 2–10 mm longi; pedicelli 2–8 mm longi; bractee triangulatae vel subuliformes. *Sepala* 5, basin connata; lobi ovati 1,5–2 × 1 mm, purpureovirides, exteriore hirsuta. *Corolla* 6–11 mm longa; tubus campanulatus, 2,5–4 mm, profundus exteriore viridis ad purpureoviridis, hirsutus, interiore luteoviridis; lobi oblongo-ovati ad anguste ovati, 4–8 mm longi, ad basin 2–3,5 mm lati, exteriore virides ad purpureovirides, hirsuti, interiore glabrati, luteovirides, supra medium cum 'V' inverso purpureoviride vel magenteo. *Corona* 5-lobata, basin tubi corollae conjuncta, sed ab ostio tubi liber; lobi tripartiti, segmentum centralis teres filiformis, 10–11 mm longum, segmenta lateralia, cornibus curvatis carnosius, ± 1,5 mm longis. *Stamina* 2–3 mm longa; filamentae superficiis coronae nascentia, ad medium arcuata; antherae ovatolanceolatae, in apicibus connatae, virido-alba ad malvinae, polliniis spatulatis. *Stylus* 2 mm longus; gynostegium virido-album ad malvinum. *Folliculi* anguste ovoidei, 50–80 × 8–14 mm. *Semen* 8 × 3 mm; coma 20–25 mm longa.

TYPE. – Orange Free State, Bloemfontein, near J.B.M. Hertzog Airport, *Rawlinson* in PRE 57731 (PRE, holo.; BLFU).

Suffrutescent herb. *Tuber* ovoid. *Aerial stems* erect or decumbent, dichotomously branched, reddish green, hirsute. *Leaves* opposite, spreading, petiolate; blade ovate to narrowly ovate or obovate to narrowly obovate, (20)–35–(65) × (4)–7–(15) mm, often folded along midrib, dull green to glaucous, upper surface glabrous, lower surface densely to sparsely hirsute, apex acute to obtuse, mucronate, base cuneate to obtuse, margin entire, undulate, usually reddish purple, midrib reddish purple; petioles (1)–5–(15) mm long, puberulous, reddish purple. *Inflorescence* terminal or sometimes axillary, usually a monochasium with 3–5 flowers;

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Figure 1 Holotype of *Raphionacme dyeri* (Rawlinson in PRE 57731).

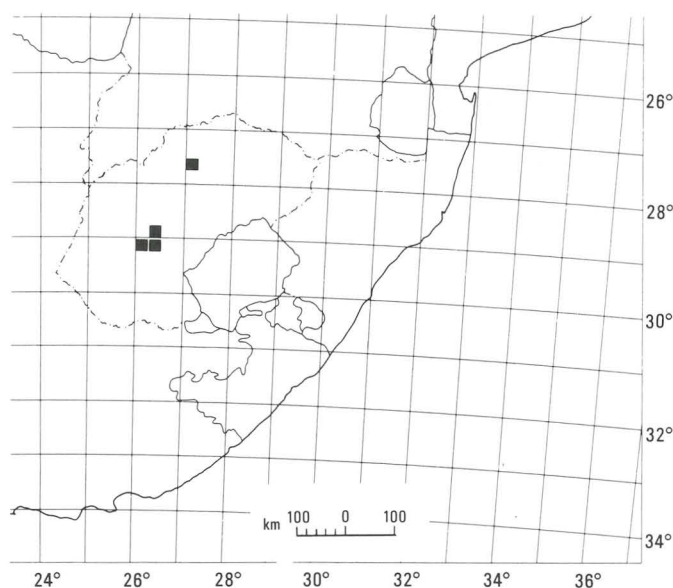


Figure 2 Distribution of *Raphionacme dyeri*.

peduncles 2–10 mm long; pedicels 2–8 mm long; bracts triangular or subulate. *Sepals* 5, fused at base; lobes ovate, 1.5–2 × 1 mm, purplish green, outer surface hirsute. *Corolla* 6–11 mm long; tube campanulate, 2.5–4 mm long, outer surface green to purplish green, hirsute, inner surface yellowish green, glabrous; lobes oblong-ovate to narrowly ovate, 4–8 mm long, 2–3.5 mm broad at the base, outer surface green to purplish green, hirsute, inner surface of lobes glabrous, yellowish green, upper half with an inverted bright purple or magenta 'V'. *Corona* 5-lobed, fused to corolla tube at base, free from mouth of corolla tube; lobes tripartite, central segment terete filiform, ± 10–11 mm long, lateral segments with curved horns, fleshy, ± 1.5 mm long. *Stamens* 2–3 mm long, filaments arise from face of corona, arched to centre; anthers narrowly ovate, fused at tips, greenish white to mauve, pollen carriers spatulate. *Style* 2 mm long; gynostegium greenish white to mauve. *Follicles* narrowly ovoid, 50–80 × 8–14 mm. *Seed* 8 × 3 mm; coma 20–25 mm long (Figure 1).

Distribution

R. dyeri is endemic to the Orange Free State, occurring only

in a restricted area (Figure 2) of dry *Cymbopogon-Themeda* grassland (Acocks's veld type 50).

Specimens examined

ORANGE FREE STATE.—2727 (Kroonstad): Kroonstad (—CA), *Pont* 668 (PRE). 2826 (Brandfort): Glen (—CD), *Gammel* 5120 (BLFU); *Mostert* 593 (PRE). 2926 (Bloemfontein): Bayswater (—AA), *Bidwell* 3608 (BLFU); Naval Hill, *Motswamoi* 2092 (BLFU); near J.B.M. Hertzog Airport (—AB), *Rawlinson* in PRE 57731 (BLFU, PRE); Grey College Grounds (—AB), *Venter* 8468 (BLFU, PRE).

Discussion

In December 1976, Mr S.I. Rawlinson sent a plant of *Raphionacme* which he had collected near Bloemfontein to the Botanical Research Institute, Pretoria. This plant did not match any known species of *Raphionacme*, but proved identical to a few specimens hitherto placed under *R. zeyheri* in PRE and BLFU. When the first author realized that the specimens represented an undescribed species, she informed the second author who was revising the genus. This resulted in the description of the taxon, *R. dyeri*.

Whereas *R. dyeri* only occurs in the Orange Free State, *R. zeyheri* is only found in the eastern Cape. *R. dyeri* differs from the latter species and the other *Raphionacme* species in having rather large flowers with the inner surface of each corolla lobe being yellowish green with a purple or magenta 'V' marking on the upper half (Figure 3). The lobes of the other species, however, are green, purplish green or purple and lack the above markings. In *R. dyeri* the filiform, central segments of the corona (Figure 4) are purplish and the fleshy lateral segments are green in colour. The aerial stems of *R. dyeri* are prominently decumbent and not erect as in most other species (Figure 5). *R. dyeri* flowers from October to December.

The specific epithet honours Dr R.A. Dyer who has devoted much time to the study of the Asclepiadaceae over the last fifty years.



Figure 3 *Raphionacme dyeri*: branchlet with flowers ($\times 3$), (Rawlinson in PRE 57731).

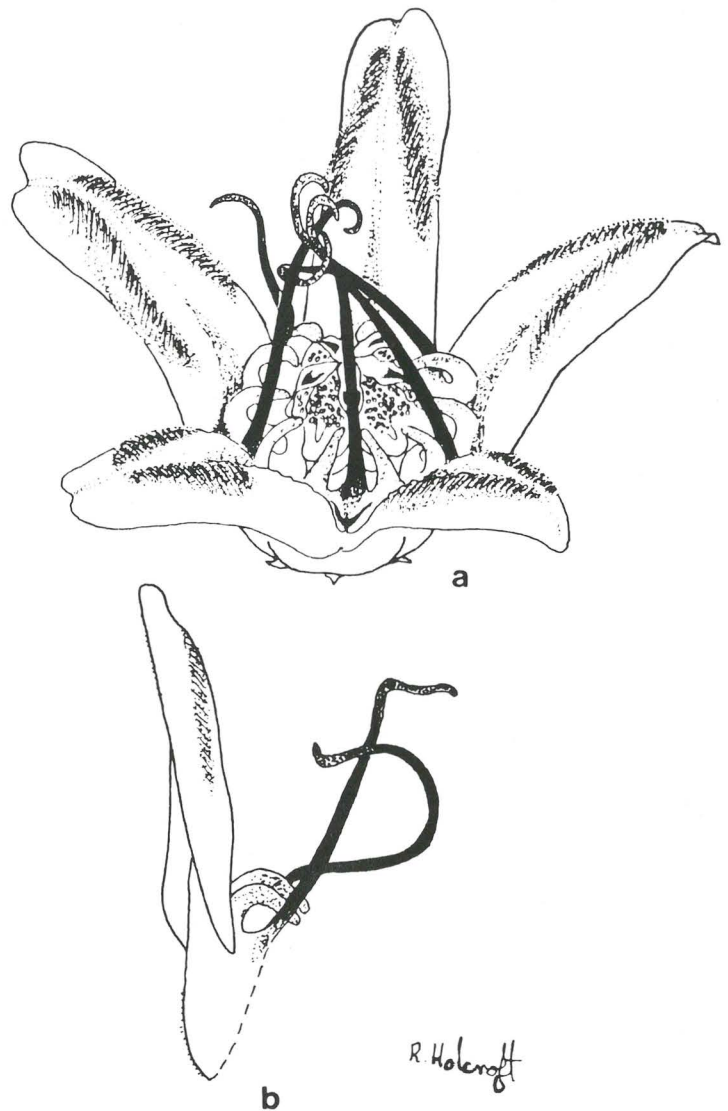


Figure 4 *Raphionacme dyeri*. a. part of flower; b. part of corona; both drawn $\times 5$ from Rawlinson in PRE 57731.



Figure 5 *Raphionacme dyeri*: plant in flower ($\times 1/3$), (Rawlinson in PRE 57731).